Complete Summary

GUIDELINE TITLE

Diabetes nutrition recommendations for health care institutions.

BIBLIOGRAPHIC SOURCE(S)

Schafer RG, Bohannon B, Franz MJ, Freeman J, Holmes A, McLaughlin S, Haas LB, Kruger DF, Lorenz RA, McMahon MM. Diabetes nutrition recommendations for health care institutions. Diabetes Care 2004 Jan;27(Suppl 1):S55-7. [6 references] PubMed

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Diabetes mellitus

GUIDELINE CATEGORY

Management

CLINICAL SPECIALTY

Endocrinology
Family Practice
Internal Medicine
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel

Dietitians
Nurses
Patients
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide recommendations and suggestions regarding how the diabetes medical nutrition therapy guidelines may be incorporated into health care facilities providing acute and long-term medical and nursing care

TARGET POPULATION

Adults with diabetes mellitus in health care institutions

INTERVENTIONS AND PRACTICES CONSIDERED

1. Diabetes medical nutrition therapy
2. Nutritional assessment by dietitian and interdisciplinary team approach to diabetes management
3. Use of alternative meal-planning systems (e.g., consistent-carbohydrate diabetes meal plan) versus traditional standardized calorie-level meal patterns based on exchange lists
4. Special considerations for diabetic patients requiring clear or full liquid diets and those requiring enteral or parenteral feedings
5. Education provided by the dietitian to patient regarding self-management while hospitalized and at discharge, and to health care facility administrators, nursing, pharmacy, and medical staff regarding new nutrition guidelines, noting subsequent changes to meal service

MAJOR OUTCOMES CONSIDERED

- Metabolic/glycemic control
- Overall health and nutritional status
- Patient satisfaction and quality of life

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The recommendations are based on the technical review, which discusses published research and issues that remain unresolved. For some issues, limited studies are available on which to base the suggested recommendations. In these instances, consensus was reached by the American Diabetes Association task force that was charged with addressing these concerns.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This paper was peer-reviewed, modified, and approved by the Professional Practice Committee and the Executive Committee of the Board of Directors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

1. All individuals involved in the care of the health care institution resident need to recognize that the use of a regular diet with consistent carbohydrate content, including sucrose-containing foods, and appropriate calories will not adversely affect glycemic control.
2. Diabetes medical nutrition therapy needs to be individualized with nutrition therapy integrated into the overall diabetes management plan and with all members of the interdisciplinary team promoting the plan devised for implementation.
3. Nutrition recommendations for patients with diabetes are based on nutrition assessment, desired treatment outcomes, and modification of usual food intake.
4. Measurement and documentation of medical, clinical, educational, and psychosocial outcomes achieve evaluation of how well medical nutrition therapy has been integrated into the overall diabetes management plan.
5. Replace the traditional standardized calorie-level meal based on exchange lists with an alternative meal-planning system. The "consistent-carbohydrate diabetes meal plan" is a system that incorporates a consistent carbohydrate content, appropriate fat modifications, and consistent timing of meals and snacks.
6. Just as there is not one nutrition prescription that meets the needs of every patient with diabetes, there is not one meal planning system that is ideal for every health care institution; however, the task force suggests that hospitals consider implementing the consistent-carbohydrate diabetes meal planning system along with glucose monitoring and appropriate adjustments in diabetes medications.
7. It is recommended that the term "ADA diet" no longer be used, since the American Diabetes Association no longer endorses any single meal plan or specified percentages of macronutrients as it has done in the past.
8. Hospitals should have a system for notifying the dietitian of which patients with diabetes require a nutritional assessment. The dietitian then assumes responsibility for patient assessment, determination of an appropriate nutrition prescription, and compilation of a plan for self-management education.
9. Meal plans such as no concentrated sweets, no sugar added, low sugar, and liberal diabetic diets are no longer appropriate. These diets do not reflect the diabetes nutrition recommendations and unnecessarily restrict sucrose. Such meal plans may perpetuate the false notion that simply restricting sucrose-sweetened foods will improve blood glucose control.
10. It is important that dietitians be involved in discharge planning and that plans be made for continuing nutrition self-management education in the outpatient or home setting where patients are better able to focus on learning needs and time constraints are not as likely to be a factor.
11. Malnutrition among older individuals in long-term health care facilities is not uncommon and has been associated with adverse outcomes. In an effort to prevent or correct malnutrition, it has been demonstrated that residents eat better when they are given less-restrictive diets with regular foods. It is appropriate to serve individuals with diabetes regular, unrestricted menus with consistent amounts of carbohydrate at meals and snacks. Calories should

not be restricted to less than daily needs to control blood glucose levels because of the risk of malnutrition. If desserts are served, the portions are usually small. A fat restriction is not indicated for the majority of this population because of the risk of malnutrition.

12. Long-term care facilities caring for a younger population (e.g., rehabilitation centers) will often serve a regular diet with consistent carbohydrate content, a higher calorie level, and a lower fat content than is implemented to the older population.
13. There may be residents in either type of long-term care facility who require more individualization. Capillary blood glucose monitoring can be used to evaluate the effectiveness of the nutrition care plan. Often it may be more important to make medication changes than food adjustments.
14. The following guidelines apply to special nutrition issues:
    - Patients requiring clear or full liquid diets should receive approximately 200 grams of carbohydrate per day in equally divided amounts, at meal and snack times. Liquids should not be sugar-free. Diabetes medications may need to be adjusted to achieve and maintain metabolic control.
    - After surgery, food intake should be initiated as quickly as possible. Progression from clear liquid to full liquid to solid foods should be completed as rapidly as tolerated. Adequate carbohydrate and calories should be provided.
    - During catabolic illness, careful and continuous monitoring of nutritional and glycemic status is critical to ensure that increased nutritional needs are being met and that hyperglycemia is prevented. Caloric needs for most patients are in the range of 25 to 35 kcal/kg every 24 hours. Care must be taken not to overfeed patients because it can exacerbate hyperglycemia. For patients with normal hepatic and renal function, protein needs range from 1.0 to 1.5 g/kg body weight, depending on the degree of stress.
    - As in a solid diet, the total grams of carbohydrate provided by enteral or parenteral formulations will have the greatest impact on blood glucose response. Use of the enteral versus the parenteral route of feeding provides several advantages: a more physiological route, avoidance of central-catheter-related complications, the trophic effect of gastrointestinal cells, and lower costs. For tube feedings, either a standard enteral formula (50% carbohydrate) or a lower-carbohydrate-content formula (33-40% carbohydrate) may be used. Regardless of the type of feeding used, blood glucose monitoring is required to guide adjustments in diabetes medication and maintenance of glycemic control.
15. Dietitians should provide education to health care facility administrators, nursing, pharmacy, and medical staff regarding new nutrition guidelines, noting subsequent changes to meal service.
16. Team members should have access to simplified guidelines such as The First Step in Diabetes Meal Planning (American Diabetes Association, The American Dietetic Association: The First Step in Diabetes Meal Planning. American Diabetes Association, Alexandria, VA, 1995) or Dietary Guidelines for Americans (U.S. Department of Agriculture, U.S. Department of Health and Human Services) to provide to patients until a dietitian is available.
17. Administrators and physicians can help support the implementation of the new nutrition guidelines when they recognize that changes in patient food

service may lead to improved patient satisfaction and may prove to be more cost-effective.

18. It is essential to continue measuring and documenting outcomes of diabetes medical nutrition therapy. This information is essential for improving the coverage and reimbursement of medical nutrition therapy.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Primary goals of medical nutrition therapy for diabetes are to attain and maintain optimal metabolic control (glucose, lipids, and blood pressure), prevent and treat the chronic complications of diabetes, improve overall health through healthy food choices and optimal nutrition, and address individual needs.
- Implementation of the consistent-carbohydrate diabetes meal planning system by hospitals can meet patients' nutritional needs and, along with glucose monitoring and appropriate adjustments in diabetes medications, facilitate improved metabolic control for patients in acute care settings.
- Implementation of consistent amounts of carbohydrates, unrestricted menu offerings, and avoiding fat restriction in long-term health care facilities may decrease the risk of malnutrition, increase the quality of life, heighten satisfaction, improve nutritional status, and decrease feelings of isolation.
- Education provided to health care facility nursing, pharmacy, and medical staff by dietitians regarding new nutrition guidelines and subsequent changes in meal service may lead to improved patient satisfaction and may prove to be more cost-effective.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Evidence is only one component of clinical decision-making. Clinicians care for patients, not populations; guidelines must always be interpreted with the needs of the individual patient in mind. Individual circumstances, such as comorbid and

coexisting diseases, age, education, disability, and above all, patient's values and preferences, must also be considered and may lead to different treatment targets and strategies. Also, conventional evidence hierarchies, such as the one adapted by American Diabetes Association, may miss some nuances that are important in diabetes care.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Schafer RG, Bohannon B, Franz MJ, Freeman J, Holmes A, McLaughlin S, Haas LB, Kruger DF, Lorenz RA, McMahon MM. Diabetes nutrition recommendations for health care institutions. Diabetes Care 2004 Jan;27(Suppl 1):S55-7. [6 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 Aug (reviewed 1997; republished 2004 Jan)

GUIDELINE DEVELOPER(S)

American Diabetes Association - Professional Association

SOURCE(S) OF FUNDING

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GUIDELINE COMMITTEE

Professional Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

The guideline was originally approved in August 1996; the most recent review was completed in 1997.

American Diabetes Association (ADA) position statements are reissued annually.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Diabetes Association (ADA) Web site.

Print copies: Available from American Diabetes Association, 1701 North Beauregard Street, Alexandria, VA 22311.

AVAILABILITY OF COMPANION DOCUMENTS

The recommendations in this paper are based on the evidence reviewed in the following publication:

- Schafer R, Bohannon B, Franz MJ, Freeman J, Holmes A, McLaughlin S, Haas L, Kruger D, Lorenz R, McMahon M: Translation of the diabetes nutrition recommendations for health care institutions (Technical Review). Diabetes Care 1997;20:96-105.

Print copies: Available from the American Diabetes Association (ADA), 1701 North Beauregard Street, Alexandria, VA 22311.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on November 1, 1998. The information was verified by the guideline developer on December 15, 1998. This summary was updated by ECRI on April 1, 2000, April 2, 2001, January 29, 2002, July 29, 2003, and March 23, 2004.

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